TX-E Roam

Product Specification | **DRAFT** | March 2026

1. Product Overview

The TX-E Roam is a portable, battery-powered NAT router that connects to Wi-Fi HaLow networks and creates a 2.4 GHz Wi-Fi access point for nearby devices. Designed to fit in a pocket, backpack, or holder, it extends HaLow network access to standard Wi-Fi devices wherever you go.

With over 8 hours of battery life and a range of more than 500 m from the nearest HaLow access point, the Roam is built for mobile and field deployments. It is managed via the TX-E Connect mobile application over Bluetooth.

2. Key Features

- Portable HaLow-to-Wi-Fi NAT router — pocket and backpack friendly
- Connects to HaLow networks up to >500 m from access point
- Creates a 2.4 GHz Wi-Fi access point for up to 10 devices
- >8 hour battery life — internal rechargeable battery
- USB Type-C charging
- Weatherproof and waterproof ASA enclosure
- Power button and LED status indicator
- Compact cylindrical form factor — approx. 160 mm length
- Managed and updated via TX-E Connect over Bluetooth

3. Wireless Specifications

Wi-Fi HaLow (IEEE 802.11ah) — Uplink

Standard	IEEE 802.11ah (Wi-Fi HaLow)
Bands	915 MHz (US, Canada) / 920 MHz (AU, NZ, Japan)
Mode	Client — connects to HaLow access point
Range	>500 m from HaLow access point
Upload	~5 Mbps
Download	~6 Mbps
Antenna	Internal

2.4 GHz Wi-Fi (IEEE 802.11 b/g/n) — Access Point

Standard	IEEE 802.11 b/g/n
Frequency	2.4 GHz ISM band
Mode	Access point (LAN)
Max Clients	10 devices
Antenna	Internal PCB antenna

4. Networking

Function	HaLow client (WAN) to 2.4 GHz AP (LAN)
Max Clients	10 devices
Routing	IPv4 NAT
DHCP	Server on LAN interface
Throughput	~5 Mbps upload / ~6 Mbps download

5. Power & Battery

Battery	Internal rechargeable, 3,000 mAh
Battery Life	>8 hours continuous operation
Charging	USB Type-C, 5 V DC

6. Physical

Form Factor	Cylindrical tube
Enclosure	ASA plastic
IP Rating	Weatherproof and waterproof
Controls	Power button
Indicators	1 x LED status indicator
Operating Temp	-20°C to +75°C
Storage Temp	-30°C to +85°C

7. Mobile Application

App Name	TX-E Connect
Platforms	iOS and Android
Connection	Bluetooth LE (BLE 5.0)
Configuration	Network settings, device and battery status
Firmware Updates	Wirelessly via TX-E Connect over BLE

8. Regulatory

Certifications	FCC and RCM (in progress)
Markets	US, Canada, Australia, New Zealand, Japan